عنوان مقاله:

Vibration Analysis of Shear Deformable Cylindrical Shells Made of Heterogeneous Anisotropic Material with Clamped Edges

محل انتشار:

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خلاصه مقاله:

The vibration behavior of moderately-thick inhomogeneous orthotropic cylindrical shells under clamped boundary conditions based on first-order shear deformation theory (FOSDT) is investigated using an analytical approach. The basic relationships for cylindrical shells composed of inhomogeneous orthotropic materials are established, and then partial differential equations of motion are derived in the framework of FOSDT. The analytical expression for frequency is found for the first time using the special approach for clamped boundary conditions. After checking the accuracy of obtained expressions, the effects of shear stress, orthotropy ratio and inhomogeneity on frequency values .are examined in detail

کلمات کلیدی:

Moderately-thick cylinders, clamped edges, inhomogeneity, orthotropy, Vibration, frequency